In the Claims

1.   (**Currently Amended**) An apparatus for network management in a heterogeneous environment, comprising:

a relational interface embodied in a machine-readable non-transitory medium and when executed by an electronic processor configured to receive a relational query from a software application requesting network management information from a specified network device, the network management information including **interface** information allowing the software application to monitor, control, and configure devices on a network remotely via the network;

a relational mapper embodied in a machine-readable non-transitory medium and configured to translate the relational query requesting network management information received through the relational interface from the software application, to native protocol messages according to an access protocol associated with the network device;

a plurality of handlers embodied in a machine-readable non-transitory medium, the plurality of handlers comprising an HTTP handler, an SNMP handler, and a Telnet handler; and

a protocol transaction handler embodied in a machine-readable non-transitory medium and configured to **select a handler from the plurality of handlers according to the access protocol associated with the network device, wherein the selected handler is configured to:**

handle the native protocol messages as a transaction with the network device, [[and]]

return a result of the transaction to the software application**; and**

extract the interface information from the result of the transaction by applying a filter, the filter selected based on the network device and a vendor associated with the network device, the filter compatible with a proprietary data organization associated with the vendor.

2.   (Previously Presented) The apparatus of claim 1, wherein the relational mapper includes a relational model of the network device.

3. (Previously Presented) The apparatus of claim 1, wherein the relational mapper is configured to translate a query to plural messages corresponding to plural access protocols.

4. (Previously Presented) The apparatus of claim 1, wherein the relational mapper is expandable to receive queries directed to additional network devices which use other protocols different from said access protocol, transparent to said software application.

5. (Previously Presented) The apparatus of claim 1, wherein the collection of information of the network device is viewed as a relational database.

6. (Original) The apparatus of claim 1, wherein the relational query is independent of management and/or access protocols.

7. (Original) The apparatus of claim 1, wherein the translation of the relational query to native protocol messages is an abstraction transparent to said software application.

8. (Original) The apparatus of claim 1, wherein a form of the relational query does not depend on the access protocol to which the relational query is to be translated.

9. (**Currently Amended**) A relational modeler embodied in a machine-readable non-transitory medium [[and]] **that** when executed by an electronic processor **is** configured to translate a relational query**,** from a software application requesting network management information from a specified network device, to native protocol messages according to an access protocol associated with the network device, wherein said native protocol messages is handled as a transaction with the network device, the network management information including **interface** information allowing the software application to monitor, control, and configure devices on a network remotely via the network**, the interface information being extracted from a result of the transaction by application of a filter, the filter selected based on the network device and a vendor associated with the network device, the filter compatible with a proprietary data organization associated with the vendor**.

10. **(Currently Amended)** A computer data signal embodied in a machine-readable non-transitory medium, for network management in a heterogeneous environment, comprising:

a first segment including relational interface code to receive a relational query from a software application requesting network management information from a specified network device, the network management information including **interface** information allowing the software application to monitor, control, and configure devices on a network remotely via the network;

a second segment including relational mapper code to translate the relational query requesting network management information received from the software application, to native protocol messages according to an access protocol associated with the network device; and

a third segment **comprising HTTP handler code, SNMP handler code, and Telnet handler code, the third segment further** including protocol transaction handler code to **select handler code from the HTTP handler code, the SNMP handler code, and the Telnet handler code according to the access protocol associated with the network device, wherein the selected handler code is configured to:**

handle the native protocol messages as a transaction with the network device, [[and]]

return a result of the transaction to the software application**; and**

extract the interface information from the result of the transaction by applying a filter, the filter selected based on the network device and a vendor associated with the network device, the filter compatible with a proprietary data organization associated with the vendor.

11.   (**Currently Amended**) A method for network management in a heterogeneous environment, comprising:

receiving a relational query from a software application requesting network management information from a specified network device**, the network management information including interface information allowing the software application to monitor, control, and configure devices on a network remotely via the network**;

translating the relational query received from the software application, to native protocol messages according to an access protocol associated with the network device;

storing a plurality of handlers embodied in a machine-readable non-transitory medium, the plurality of handlers comprising an HTTP handler, an SNMP handler, and a Telnet handler; and

selecting a handler from the plurality of handlers according to the access protocol associated with the network device, wherein the selected handler:

handles ~~handling~~ the native protocol messages as a transaction with the network device**,** [[and]]

returns ~~returning~~ a result of the transaction to the software application**; and**

extracts the interface information from the result of the transaction by applying a filter, the filter selected based on the network device and a vendor associated with the network device, the filter compatible with a proprietary data organization associated with the vendor.

12.   (Cancelled)

13.   (Cancelled)

14.   (Cancelled)

15.   (Previously Presented) The apparatus of claim 1, wherein the access protocol associated with the network device is selected from a group consisting of:

Simple Network Management Protocol;

Common Management Information Protocol;

Command Line Interface;

Hypertext Transfer Protocol;

Structured Query Language; and

Simple Object Access Protocol.

16.   (Previously Presented) The apparatus of claim 1, further comprising the relational mapper configured to translate the relational query, in the form of Structured Query Language, received through the relational interface from the software application, to native protocol messages according to an access protocol, in the form of Simple Network Management Protocol, associated with the network device.

17.   (Previously Presented) The computer data signal of claim 10, wherein the access protocol associated with the network device is selected from a group consisting of:

Simple Network Management Protocol;

Common Management Information Protocol;

Command Line Interface;

Hypertext Transfer Protocol;

Structured Query Language; and

Simple Object Access Protocol.

18.   (Previously Presented) The computer data signal of claim 10, further comprising the second segment including relational mapper code to translate the relational query, in the form of Structured Query Language, received from the software application, to native protocol messages according to an access protocol, in the form of Simple Network Management Protocol, associated with the network device.

19.   (Previously Presented) The method of claim 11, wherein the access protocol associated with the network device is selected from a group consisting of:

Simple Network Management Protocol;

Common Management Information Protocol;

Command Line Interface;

Hypertext Transfer Protocol;

Structured Query Language; and

Simple Object Access Protocol.

20.   (Previously Presented) The method of claim 11, wherein translating the relational query received from the software application, to native protocol messages according to an access protocol associated with the network device comprises translating the relational query, in the form of Structured Query Language, received from the software application, to native protocol messages according to an access protocol, in the form of Simple Network Management Protocol, associated with the network device.

21.   (**Currently Amended**) A computer system, comprising:

an electronic processor; and

a non-transitory program storage device readable by the computer system, tangibly embodying a program of instructions executable by the processor to:

receive a relational query from a software application requesting network management information from a specified network device, the network management information including **interface** information allowing the software application to monitor, control, and configure devices on a network remotely via the network allowing the software application to monitor, control, and configure devices on a network remotely via the network;

translate the relational query requesting network management information received from the software application, to native protocol messages according to an access protocol associated with the network device;

store a plurality of handlers embodied in a machine-readable non-transitory medium, the plurality of handlers comprising an HTTP handler, an SNMP handler, and a Telnet handler; and

select a handler from the plurality of handlers according to the access protocol associated with the network device, wherein the selected handler is configured to:

handle the native protocol messages as a transaction with the network device, [[and]]

return ~~returning~~ a result of the transaction to the software application**, and**

extract the interface information from the result of the transaction by applying a filter, the filter selected based on the network device and a vendor associated with the network device, the filter compatible with a proprietary data organization associated with the vendor.

22. (**Currently Amended**) A non-transitory program storage device readable by a electronic processor, tangibly embodying a program of instructions executable by the electronic processor to:

receive a relational query from a software application requesting network management information from a specified network device, the network management information including **interface** information allowing the software application to monitor, control, and configure devices on a network remotely via the network;

translate the relational query requesting network management information received from the software application, to native protocol messages according to an access protocol associated with the network device;

store a plurality of handlers embodied in a machine-readable non-transitory medium, the plurality of handlers comprising an HTTP handler, an SNMP handler, and a Telnet handler; and

select a handler from the plurality of handlers according to the access protocol associated with the network device, wherein the selected handler is configured to:

handle the native protocol messages as a transaction with the network device**,** [[and]]

return ~~returning~~ a result of the transaction to the software application**, and**

extract the interface information from the result of the transaction by applying a filter, the filter selected based on the network device and a vendor associated with the network device, the filter compatible with a proprietary data organization associated with the vendor.

23. **(Currently Amended)** A computer data signal · including one or more segments[[-]]embodied in a machine-readable non-transitory medium which embodies instructions executable by a electronic processor to:

receive a relational query from a software application requesting network management information from a specified network device, the network management information including **interface** information allowing the software application to monitor, control, and configure devices on a network remotely via the network;

translate the relational query requesting network management information received from the software application, to native protocol messages according to an access protocol associated with the network device;

store a plurality of handlers embodied in a machine-readable non-transitory medium, the plurality of handlers comprising an HTTP handler, an SNMP handler, and a Telnet handler; and

select a handler from the plurality of handlers according to the access protocol associated with the network device, wherein the selected handler is configured to:

handle the native protocol messages as a transaction with the network device**,** [[and]]

return ~~returning~~ a result of the transaction to the software application**, and**

extract the interface information from the result of the transaction by applying a filter, the filter selected based on the network device and a vendor associated with the network device, the filter compatible with a proprietary data organization associated with the vendor.